Structural Estimation and Solution of International Trade Models with Heterogeneous Firms

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Abstract

We present an empirical implementation of a general-equilibrium model of international trade with heterogeneous manufacturing firms. The theory underlying our model is consistent with Melitz (2003) and Bernard et al. (2004). A nonlinear structural estimation procedure identifies a set of core structural parameters and unobserved firm-level trade frictions which best fit the geographic pattern of trade. Once the parameters are identified, we utilize a decomposition technique for computing general-equilibrium counterfactuals. We illustrate this technique using trade and protection data from the Global Trade Analysis Project (GTAP). In our calculations we first assess the economic effects of reductions in measured tariffs, and we then compare this impact with reductions in estimated fixed trade costs.

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